N. A. C. A. BULLETIN

Vol. XXVI, No. 23 August 1, 1945

IN THIS ISSUE

Contract Terminations and Momentum Costs, by Walter F. Titus.... 1063

Making Standard Costs Work, by H. Burling Naramore..... 1071

Our Open Forum..... 1081

Cost Currents..... 1083

Current Cost Literature..... 1086

Association News..... 1087

EDITORIAL DEPARTMENT NOTE

The passing of V-E Day highlights the successful termination of the war in Europe; it also presents new problems to those on the home front. The redeployment of our forces in the Pacific area requires to some extent different types of equipment from those used in the European theater of operations. Cutbacks and outright contract terminations have now moved from the field of speculation into the field of reality and have produced problems, the answers to which are not always clear; in fact, all the rules have not yet been written. The first article in this issue, by Walter F. Titus, is therefore especially timely. His paper was presented at a special meeting of the New York Chapter in May of this year and proved extremely stimulating, especially his ideas on momentum costs.

Mr. Titus is well known to many of our members since he has been a frequent speaker at numerous chapter meetings. He is a native of Westbury, Long Island, and was employed by the New York Central system from 1904 to 1909. He then left railroading to become associated with International Business Machines Corporation. He was Vice President in charge of manufacturing with I.B.M. when he left in April, 1943, to join the Sperry Gyroscope Co. He is now Vice President in charge of contract terminations of the latter company.

Our second article addresses itself strictly to peacetime problems. The war emergency has tended to emphasize reimbursability of costs at the expense of costs for control purposes. It is time for organizations to look ahead and get ready for the problems to be faced in the reconversion and postwar periods. The case study on making standard costs work should prove extremely helpful to those interested in introducing a standard cost system or otherwise strengthening their present cost system.

H. Burling Naramore is a graduate of Dartmouth College and of the Amos Tuck School of Business Administration and Finance. The eight years following his graduation in 1934 were spent with R. G. Rankin & Co. of New York as a public accountant. Mr. Naramore is a Certified Public Accountant in the State of New York. In March, 1942, he came to Bridgeport Fabrics, Inc., and since December of that year has served as President. He also is associated with Morrell, Prinzing & Company, Certified Public Accountants in Bridgeport.

Articles published in the *Bulletin* present many different viewpoints. In publishing them the Association is not sponsoring the view expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

This *Bulletin* is published semimonthly by the National Association of Cost Accountants, 385 Madison Ave., New York 17, N. Y. Subscription price, $10.00 per year. Entered at the Post Office, New York, N. Y., as second-class matter August 28, 1925, under the Act of March 3, 1879.

COPYRIGHTED BY THE
NATIONAL ASSOCIATION OF
COST ACCOUNTANTS

AUGUST 1, 1945

CONTRACT TERMINATIONS AND MOMENTUM COSTS

By Walter F. Titus, Vice President,
Sperry Gyroscope Co., Inc., New York, N. Y.

CONTRACT termination is a most alluring subject. It is a mixture of law, manufacturing, engineering, warehousing, auditing, salesmanship, negotiating, expediting, organizing, and haggling. Joint Termination Regulations, commonly called J.T.R., is the "bible." It is an intriguing bible abounding with such words as "fair and reasonable," "good business or commercial practice," and "estimated" and "probable." The subject cuts a horizontal swath across the organization chart. It involves industrial relations, procurement, engineering, development, sales, building and grounds, manufacturing, financial, legal, and accounting departments. It is alluring too, because all the rules have not been written.

But contract termination is an important subject for a war contractor. The amounts which are at stake are large, in some instances larger than the net worth of the enterprise. The recovery of these amounts is vital. The Government wants to pay a war contractor every rightful cent he has coming to him and quickly too. But the usual hitch is that the contractor's records and procedures are based on completion of contracts and are inadequate in case of terminations. If a contractor has not gone through termination experience, it behooves him to find out all he can about it. If he has been through such an experience, he knows the bad spots and is repairing them.

Functions of Termination Organization

Contract termination is so important that it is usually desirable to establish a competent responsibility and an organization to handle it. The trouble with expecting various departments of a business to take contract terminations in their stride is that the job may be likened to that of the undertaker. To most people an undertaker partakes of small glamour. Most people are not interested in the process of undertaking but probably most undertakers speak with joy and zest about the technique, ethics, and advances in their vocation. So the best thing is to appoint an undertaker and give him power to get things done. He will find plenty to do.

The main things in organization, as he will see it, are to provide for four main responsibilities:

1. To prepare claims.
2. To audit claims.
3. To dispose of inventories.
4. To negotiate settlements.

Under preparation of claims comes the job of getting in the subcontractors' claims and getting the prime contractor's claim put together. The latter involves the collection of inventory schedules for raw material, hardware, work-in-process, finished parts, assemblies, finished end items, tools, test equipment, patterns, and consideration of own material or tools in subcontractors' hands.

In auditing claims there is a natural division into two parts. The first has to do with subcontractors' claims where, acting for the Government, it is the prime contractor's duty to see that, while the subcontractor is treated fairly, he gets away with nothing which the contractor himself would not allow. The second has to do with the prime's claim. Here the auditor, while seeing to it that a righteous claim is presented, puts special accent on seeing to it that the claim includes everything that should be included.

In disposing of inventories for claims, the responsibility is first to safeguard the inventory and second to work with contracting services in screening it into commercial, salvage, and scrap items. After this comes the search for outlets and final disposition to suppliers, junk dealers or otherwise, as agreed with the proper disposal or plant clearance officer.

In negotiation of settlements, the discussion of whatever disallowances are made by the government auditor takes place, also explanations as to application of overhead, general and administrative expense, profit, settlement expenses, handling charges, retroactive wage awards, stop work dates, and so on.

The contract termination department's relationships with suppliers, with the services, and with the other departments in the contractor's organization must be kept upon a friendly and cooperative basis. This is particularly true in the case of the contractor's own organization. The contract termination department cannot stop work nor stop subcontractors nor can they prepare schedules nor price and extend them. All they can do is schedule

work and then see to it that schedules are met. This takes a mixture of understanding, agreeability, needling, and appreciation. Everybody in contract termination is forced to become sales minded.

Special Problems

Another thing that you should do if you hold war contracts is to formulate pretermination agreements with your customer whether it is the Government or next higher tier contractor. There are a great many things upon which it is possible to arrive at an agreement, such as, overhead composition, rate, and period over which figured. The same holds true for general and administrative expense. If you are going to claim a material handling charge, it would be well to be in accord as to the method and rate; how you will price work-in-process; what will be reasonable excesses; what diversions you will make; and how will your settlement expense be figured? What will you need for interim financing? What plans do you have for the safeguarding and disposal of inventory? What profit rate on what you expect to collect?

Outside of the items just mentioned, there are some most interesting problems. The services feel that 24 hours is a long enough period in which to stop work. They would be lenient, I believe, and give you another day to stop subcontractors. But to get back to stopping your own work, suppose you have common parts, spares, and continuing contracts; don't be too sure you can stop work in 24 hours. However, it is important to stop as soon as possible, because any money that is spent after 24 hours is in jeopardy. Again, what are you going to do about perishable tools that might be bought on a maximum-minimum basis but which were bought because of a continuing or increasing shop load? How are you going to prove allocability? What are you going to do about separation wages? The theory now is that even under the most considerate treatment, you will recover only a part of it. This is because it is deemed that a separation wage is something that is paid as a result of service over the entire war period, and therefore allocation to the last contract worked on is incorrect. In any event, if you have seniority rules in effect, you may well find that many of the workers engaged on the contract canceled will not be let out but others with less seniority will go. And if they were not working on this contract, how are they allocable?

Source of Momentum Costs

But the real $64 question is momentum costs. Probably there is not a textbook dealing with the subject. To most people the name is new; but to many war contractors in many kinds of business, it is right now a very important matter. Momentum cost is just what its name implies. It is like driving an automobile which you have pushed up to 50 miles an hour. Then if you try to stop it instantly, it just cannot be done. In spite of your mental alertness and the best four-wheel brakes and with new anti-skid tires, the best you can do is to stop that car in 190 feet. In fact if you stopped it much sooner than that you would go through the windshield yourself. That is a parallel to the condition which may face many war contractors.

Remember back in the early days of 1942? Our nation had to get war materiel and fast because we had desperate shortages. The Army and Navy procurement officers pleaded and sold American manufacturers into acceptance of contracts and delivery schedules which meant, in many cases, a multiplication of the business to 5, 10, 15, and 20 times its former size. In spite of all difficulties encountered, such as inability to hire supervisors, machinists, inspectors, methodizers, tool designers, and engineers, American business did a remarkable job in finding and training new organizations and in instituting far-reaching campaigns to enlist the aid of subcontractors. It was not long before the cry of "too little, too late" disappeared, and our enemies started on their ways to defeat.

But with the defeat of Germany and much more so with the defeat of Japan comes inevitably contract termination on a large scale. Many contractors now face the probability of sharp reductions of output to 50 per cent or 25 per cent or even less of the rate to which they have been geared. The question is "What is going to happen to the organization?" The easy answer is "We will release them down to a point consistent with our new indicated output." That is a good answer, but how long will it take to do it and who is going to pay the necessary costs while the reduction proceeds?

When a business expands to several times its former size and does this in a short span of years, the building of an administrative structure is not accomplished by the simple addition of personnel.

The duties of the personnel involved must become more and more specialized if good organization is to be had. For instance, when an entrepreneur starts a business, in many instances he is his own engineer, his own sales force, his own bookkeeper. As his business grows he does not add another fellow like himself who helps him on engineering, on selling, and in bookkeeping. He hires an engineer who knows nothing of selling or bookkeeping. And when the business grows still more, he hires another engineer, not to help the first one but he puts one on development and the other on shop processes. And when it further expands and more help is needed on development, he may split development as between electrical and mechanical, and then later split electrical between high and low frequency, and then high frequency between radar and communications, and then radar between ground and airborne. Hence, when an expanded business is faced with the probability of drastic reduction in output, it faces the necessity for retreat in organization because the business that remains obviously cannot support the overhead structure which was necessary to carry top requirements. The expense involved is basically in personnel. Attendant materiel and services evaporate pretty much as personnel diminishes.

Reducing Personnel

The reduction of personnel, therefore, is of vital import when reduction of business takes place. But the immediate reduction of overhead and general and administrative personnel, which would be demanded by severe reduction in business, is impossible to accomplish in a short time. This is because it is not possible to shrink an expanded organization rapidly. In the example of expansion before mentioned, it is hardly possible for the specialist engineer in airborne radar to handle mechanical development. He doesn't know the job. This means that a man who knows less about each of more things has to be found or trained before the highly specialized engineer can be let go.

When the necessity for contraction occurs, there are just as many kinds of work to be done as before but only a fraction of the quantity. Where there are several people doing the same kind of work, as for instance key punch operators in the accounting department, no problem exists, but when there is only one-half a

job left for the electrical buyer and one-half a job for the tools buyer a problem does develop. It seems perfectly obvious that no matter what is done there is going to be a period where loss will be experienced. This is because without taking a period of perhaps a minimum of four months it would be impossible for the contracted organization to adjust itself to the requirements of the business. But there is no good reason why such loss must be borne by the contractor unless he had been allowed to set aside adequate funds for what might perhaps be stated as deconversion.

The problem, while most apparent in the field of general and administrative expense, in fact cuts horizontally across the whole field of company operations and involves all types of salary and expense in such categories as inspection, supervision, production and material control, engineering, industrial relations, procurement, accounting, and includes items of prepaid taxes, insurance, and similar expense. It is of major, indeed vital, importance in those industries, such as aircraft, which underwent a tremendous and abnormal expansion at the beginning of the war and which are faced with a corresponding shrinkage at its conclusion.

To look at it another way, it is interesting to compare the composition of the payroll dollar in 1938 with 1944 as shown by one company's experience. In a comparison of costs of manufacturing during 1938 as against 1944 it develops that the whole manufacturing process took roughly the same number of cents out of the entire company payroll dollar for each period. However, by 1944 the proportion paid to direct labor was considerably reduced while the proportion paid for attendant factory services such as supervision, methodizing, procurement, time study, and production control was considerably increased. This reflects the inevitable result of rapid expansion of direct workers in a period when skilled workers are not available. The people who are hired for direct labor at such times are devoid of skill and initiative. This means that such deficiencies must be made up by supervision, methodizing, processing, or tooling. Greater loads are apt to be placed on procurement, inspection, and production control.

When reduction of output takes place, the easy action to take is to release direct labor. However, when we have released direct labor we have only done a part of our job. The rest of it has to do with supervision, manufacturing engineers, methodizers, time

study men, production control, procurement, accounting, finance, engineering, industrial relations, and maintenance people. These are indirect people. The name "indirect" infers that such people are not directly concerned with any contract but that to a degree they perform functions in the interest of all contracts. This means that the shakedown to a new level of operation is difficult because reassignment, relocation, and retraining may all be involved. It means that a lag is bound to occur in spite of the best of planning and fastest of action. *This lag makes momentum costs.*

If you are a war contractor, get out your organization charts and figure on what you would do and how long it would take you to do it if you were cut 50 per cent in output tomorrow.

Official Sanction

In all of J.T.R. there appears to be only one paragraph which recognizes the situation. It is paragraph 553, and it reads as follows:

> Continuing costs after notice of termination.—In some instances, it may be impossible to discontinue certain costs and expenses in connection with the performance of a war contract immediately after notice of termination in spite of all reasonable efforts by the war contractor to stop work promptly in accordance with the notice of termination. Where the war contractor proceeds as rapidly as is practicable after receiving notice of termination to discontinue such costs in accordance with the notice of termination, reimbursement for such costs should not be denied merely because they were incurred after notice of termination.

Most contracting officers would construe that paragraph as allowing them some discretion in the matter of a contractor's inability for some good reason to stop work at once. However, even if they were to construe this paragraph as covering the matter of momentum costs, their next question would be that of allocability of such costs to a particular contract. They would say that such costs should be distributed across your whole war output and not against the contracts which are canceled.

Early in 1942 manufacturers were assured by high ranking officers that "additional costs incurred as a result of measures taken to expedite production will be reimbursed." Part of the

"additional costs" was the organization of an administrative structure. This structure was of the nature necessary to run a big business, not a small one. The deflation of such a structure is as truly a part of "additional costs incurred" as the erection of the structure. The reason is that by no stretch of the imagination could peacetime business support the structure. Just how "additional costs incurred as a result of measures taken to expedite production will be reimbursed" was not stated. Certainly not by pricing the end items high enough to provide extra profit which could be set up as a reserve against the day of deconversion. Such profits are eliminated by taxes, by renegotiation, and by voluntary price reductions as a result of increased efficiency and volume production. But the cost of deflating the structure still confronts the manufacturer. The problem is, simply and specifically, that the reduction of overhead and certain other expenses cannot take place with the speed with which direct costs can be eliminated.

The Contract Settlement Act of 1944, in describing the objectives of the act, states in Section 1 paragraph (b) "to assure to prime contractors and subcontractors, small and large, speedy and equitable final settlement of claims under terminated war contracts." In this broad statement no mention is made of allocability. The point in question is brought up by terminated war contracts. Had these contracts been allowed to go to completion the contractor usually would have time to plan for an orderly recession but large-scale termination gives him no chance. The intent of the act is clear, but regulations to cover action need clarification.

Conclusion

Again, to re-accent the importance of contract termination it should be remembered that every righteous dollar you recover in a claim is a 100 cent dollar whereas the dollars you take in on sales are only 10 cent dollars, or whatever profit rate you secure.

Second, contract termination has brought about a great scarcity of available accountants and auditors. They have been snapped up by the armed services and by war contractors. In their work on contract terminations they have been broadened and educated in areas formerly unfamiliar to them. They have become negotiators and disposal agents. They know more about business and are better fitted for postwar responsibilities. On the other hand, by

reason of contract terminations, managements have come to have a hearty respect for accountants because the accountant has always known a great deal about his business but generally kept his light under a bushel. Now in contract settlement the accountant scintillates brightly.

Finally, it is to be hoped that the Government through the Services will give some thought to the problem raised by momentum costs and their allowability in termination settlements.

MAKING STANDARD COSTS WORK

By H. Burling Naramore, President,
Bridgeport Fabrics, Inc., Bridgeport, Conn.

IT IS unnecessary to propose that extensive thought and preparation be applied prior to the installation of a standard cost system. Anyone who has been instrumental in accomplishing such a project can give ample testimony of those requirements. However, any tendency to expect that the operations then resolve themselves into turning a crank and obtaining results will destroy many fruits of previous labors. Costs are conventionally assumed to be the foundation on which the selling price is based and the yardstick of inventory value. Standard costs *per se* would be dangerous indications of actual costs unless constant and careful interpretations were made in the light of current operating conditions. Furthermore, the inclusion of a safety factor in cost calculations concedes a tongue-in-cheek approach to complete reliance on predetermined standards.

The application of the principles involved will unfortunately have to be discussed in connection with the industry with which the writer happens to be most familiar, the weaving of narrow fabrics. It is hoped that the discussion will not be obscured by the introduction of terminology peculiar to textile operations.

While this treatise does not purport to deal with the setting of standards, but rather with their application and interpretation, it is impossible to divorce all phases of the subject except the one under consideration and expect that the remainder will be coherent. Accordingly, the preliminary steps will be described in an effort to show the basis of subsequent steps.

Nature of Business

The company manufactures narrow fabrics up to three inches in width for a variety of end uses including automotive, furniture, belt, shoe, garter, suspender, and other industrial applications. While a substantial percentage of the company's operations embrace the manufacture of a variety of webbings for the foregoing purposes, other departments also involve sewing and assembly operations, manufacture of weatherstrip, weaving of glass, wire, and plastics, and the treatment of webbing to render it waterproof and mildew resistant. Accordingly, a greater degree of flexibility is required of those responsible for costs than would be the case if only webbings were involved. The problem is further complicated by the high degree of styling which is characteristic of the product. This means that no single item would run longer than six months with the average run less than three months, after which a completely different number as to style and construction must be substituted.

Setting the Standard—Webbing

Let us suppose the sales department introduces a new webbing and requests a basis of quotation. We shall assume that the webbing has been found adaptable to the company's equipment, and that a sample thereof has been prepared on the sample loom. A length of at least twelve inches of that sample is sent to the cost department where it is accurately measured and then completely pulled apart, after which the weights of each component size and color of yarn are determined. When these weights are adjusted to weight per hundred yards and extended at standard material costs per pound, the standard material cost of the web has been determined. Within the limits of variations caused by production runs on large looms as compared with a single space on a sample loom, it may be seen that the standard cost of material is also the actual cost thereof, except for minor current price differentials.

Incidentally, the foregoing material analysis by colors and sizes also serves as a determination of material requirements by interpretation of the entire order in terms of individual components necessary for its completion. This requisition is posted to a yarn requirements record which, in turn, furnishes the over or short positions in the various sizes and colors. This serves as a guide

to the purchasing department. Although this record is maintained in conjunction with the physical inventory records, it should not be confused with them as the latter are adjusted only for actual receipt of materials and physical withdrawals for consumption. The distinction is obvious, for it is impossible to run looms with materials "on order."

Setting the Standard—Labor

All direct labor operations in the webbing departments are subject to piecework rates. The calculation thereof is based on detailed time studies of those operations and a knowledge of the mechanical possibilities and limitations of the equipment. Briefly, all piecework rates involved in the production of the web are determined before the warps have been drawn in the loom by use of formulas which have been developed for this purpose. Any discussion of these formulas would become confused by the introduction of technical factors peculiar to the industry, but the resulting computed rates comprise the basis upon which operators' earnings are calculated for payroll purposes.

It is therefore apparent that the standard labor rates for cost purposes and the actual rates paid to employees are identical. Any adjustments deemed necessary must be made within two weeks, and the cost department then makes an appropriate amendment to the cost calculation. Speedy adjustment of any inequities found is essential primarily for the psychological effect on the operator and incidentally to develop a reliable cost before substantial production has been achieved.

In departments where it is not feasible to employ piecework rates (finishing department, certain sewing operations, and mildew, water-repellent treatment) and in the case of new operations, the standard labor cost is not so easily determined. The procedure which has worked exceptionally well entails the operation of the department for a period, usually a month, as if it were not a cost center. During that time, operations are under constant survey to determine machine potentials, personnel requirements, production possibilities in conjunction with other departments, and the appropriate hourly rate to be applied in the department.

Once these factors have been established, the standard labor rate is obtained by dividing the estimated daily payroll by the esti-

mated daily production. Extreme care is exercised in these calculations, and this expedient is used only in cases where production is attributable more to machine speed than to effort applied by the operator. Results have been extremely close to predetermined calculations, but controls maintained on such departments will be described hereinafter.

Overhead and Scrap

Application of overhead follows conventional procedures and is computed as a percentage of direct labor dollars. It has been found advantageous to estimate, or budget, factory costs rather than to accept blindly the experience of a previous period, a practice which tends to drive overhead slowly but steadily upward. The same percentage is used on cost sheets as in figuring overhead absorbed in book inventory, thus completing the conformity of the cost system with the general accounting records.

While not pertaining to factory cost, it may be noted that administrative overhead is also calculated as a percentage of direct labor dollars. In that connection, an effort is made to eliminate from the computation of the per cent of administrative cost those expenditures which might be considered allocation of profits or "policy expenditures" which might be curbed if conditions made such a course imperative. Examples of such omissions would include pensions, group life and hospitalization insurance, life insurance on personnel, and other similar charges which are not incurred in the production of the company's products. Trends in recent years, however, would indicate that it is not entirely proper to consider such charges extraneous to normal operating expenses.

Scrap is computed at a percentage designed to cover both raw material scrap and finished product scrap. The former type of waste comprises only a small part of the total, principally because labor and overhead have not been applied thereto, and it costs just as much to manufacture bad web as good. Theoretically, the two types of scrap should be segregated and measured separately, since the responsibility therefor lies in different operations. However, it is our opinion that this is a case where the practical aspects of the problem must outweigh the theoretical concepts, and both types are combined as a single per cent of total manufactured cost. It should not be inferred that this composite rate is blandly accepted

to be the measure of a necessary evil and that management is satisfied if both elements of scrap are covered entirely by the blanket percentage in use. While the purpose of this practical approach is to eliminate onerous bookkeeping transactions, elements of control must be maintained. These will be discussed later.

Setting the Standards—Summary

The foregoing discussion of high lights involved in determination of costs will readily give rise to the comment that they are not true standard costs, or if they ever were, many liberties have been taken with them. Such a comment would be immediately conceded, but it is of greater importance to us that our costs work for us effectively and inexpensively than that the niceties of standard costs be observed at the expense of manpower and dollars. As evidence of the facility with which these costs are administered, it may be pointed out that the company is presently manufacturing one hundred and fifty different items, the costs of which are computed by one man and the accounting functions are performed, without any additional steps, by the personnel in charge of the general books of the company. Since concessions have been made to variations which are conventionally recorded in the operation of a cost system, a description of the practices designed to replace them is necessary to determine whether or not such omissions are otherwise adequately controlled.

Controlling Variations—Material

Since the manufacture of narrow fabrics entails the conversion of yarn purchased by the pound into webbing sold by the yard, it is essential that the ratio of pounds of yarn to yards of webbing remain constant at all times. Except for wide price fluctuations, no other raw material variation can heap such a degree of disaster upon an unwary manufacturer. Price fluctuations are reflected in a material variance account and are under constant survey. Such variations from raw material prices are accumulated in a variance account customarily employed in such cases. In markets based largely upon ceiling prices, further comment seems hardly necessary, as it has been the company's policy to keep maximum prices and standard raw material costs identical.

Two factors are of prime importance in contributing to varia-

tions in the raw material content of the finished product. Deviations from specifications prescribed for raw materials are the first source of potential additional material cost. Cotton is sized according to the number of yards of yarn per pound; a size 1 comprises 840 yards to the pound, size 2 would be 1680 yards to the pound, and so forth. In converting this yarn into webbing, therefore, reasonably close conformity to the predetermined size is imperative to avoid the production of a web which weighs more, and consequently costs more, than would have been obtained if the proper size of yarn had been used. To cite an example: a size 12 yarn would run 10,080 (12x840) yards to the pound and similarly a size 11 yarn would produce 9240 (11x840) yards to the pound. Consequently, the receipt and use of a yarn which was size 11 instead of 12 would increase the raw material cost of the web by approximately 8 per cent. Conversely, a size 13 would result in a web 8 per cent lighter, and less costly, than the desired result.

In measuring variations of this nature, there is no alternative to a sufficiently comprehensive test of yarns received to make certain that sizes do not deviate materially from those specified. The problem is further complicated by the fact that cotton readily absorbs and gives off moisure. Normally, the yarn is conditioned by the spinner to contain 7 per cent moisture, but the standard moisture content will be found to change during shipment or in storage according to the local atmospheric conditions.

The first step in maintaining control over fluctuations in yarn size, without the installation of elaborate equipment, is to select sufficient samples to comprise a comprehensive test. When these samples are measured and weighed, it is possible to compute the size of the yarn. However, no effect of the humidity can be determined in this way, and if yarns are purchased on a 7 per cent moisture basis, any loss of moisture in transit would distort the sizing upon receipt. In other words, a size 11, bone dry, would closely approximate a size 12 under standard atmospheric conditions. To compensate for the effect of moisture change, samples sized by the company were sent, over a period of two years, to a laboratory to be resized after being conditioned to the standard 7 per cent moisture content. Comparison of the two sizings over this period enabled the company to plot a seasonable curve of varia-

tion which might be ascribed to moisture loss or gain. Interpretation of this curve into percentages of variation now enables the company to adjust its own calculations to obtain a reasonably accurate size under standard atmospheric conditions.

The foregoing procedure was developed at a time when it was impossible to obtain satisfactory testing equipment and, while exceedingly simple, has served as a reliable gauge of conformity to specifications. As a further check, samples of finished web are continuously weighed and compared with weights used in determination of cost. It is frequently found that, in production, webbing will run heavier or lighter than experienced in the construction of the original sample. This may be due to faulty loom set up, carelessness of the weaver, improper yarn size, and many other factors. Steps are immediately taken to rectify the cause, but unless the variation is material and extends over a long period, the costs are not changed. It has been found that such departures are compensating to some extent, and as long as the trend and probable extent are indicated, the precise measurement thereof is unwarranted.

An innovation which has been injected because of raw material shortages is the necessity of making substitution of materials in the midst of a production run. For the sake of expediency, the original cost is retained, although the new material may be more or less costly. An estimate of the total variation for the order is made and immediately charged to a material variance account unless a change in selling price is indicated, in which case a new manufacturing order and cost sheet are prepared.

Accepted raw material handling procedures relating to checking in goods and stock control, which are requisites of good inventory accounting, are observed in the company's operations. No attempt is made, however, to maintain separate raw materials, work in process, and finished goods inventory accounts on the general books, as the requisitions from stock are posted only to the perpetual raw material inventory cards. The principal argument in favor of this practice is the absence of parts and subassemblies in the manufacture of narrow fabrics. The question might be raised as to whether this method affords sufficient assurance of the most intensive utilization of raw materials. The answer is this: The production departments are furnished with yarn; all

that is forthcoming is web or scrap, and the former is sold while the latter is controlled by means described later.

Another point which has been found to require frequent attention is the measuring machines. It is obviously uneconomic to sell 51 or 52 yards for the price of 50; it would also be distressing to customers to receive anything short of full measure. The company has consequently found it necessary to make periodic checks of and adjustments to these machines. While the foregoing may be deemed extraneous to the subject of standard costs, the finest cost system conceivable will be of no avail if manufactured products are unwittingly given away.

In summary, while the company begins with standard raw material requirements which are interpreted at standard prices, numerous practical abberrations are encountered in their application which have been found to be readily controlled without bookkeeping conversions into dollars and cents and corresponding reflection on financial statements. In an industry where raw materials comprise approximately 60 per cent of the total cost, the custodianship of that element of cost must necessarily be alertly administered.

Controlling Variations—Labor

Theoretically, the pay envelope of each operator on a piecework basis contains an amount equal to the number of units produced, multiplied by the standard rate per unit, adjusted for overtime and bonus. The cost sheets are frequently checked to the payroll records to ascertain that no discrepancies have arisen between the payroll and cost departments. Actually, for one reason or another, it is often impossible for an operator to earn at his piecework rate the minimum hourly rate which he is guaranteed. This difference must be measured and accumulated in a variance account. However, no effort is made to break down further this "make-up" expense in the accounting records. As an alternative, a reasonable weekly allowance is made for learners, machine failure, and other recognized causes. Furthermore, a weekly summary of excess labor charges is furnished the person responsible therefor. It is his responsibility to investigate and ascertain the reason for any appreciable excess over the predetermined allowance for such charges. The method has an advantage in the element of surprise.

At any time he may be called upon to explain fluctuations, and since reports are received weekly, he may be asked what corrective measures have been taken. Consequently, while the executives may not have a detailed breakdown of the factors involved in labor variations, they may be assured that the subject is under constant surveillance and that the accountability therefor is fixed.

An interesting problem was encountered in attempting to establish standard labor costs for a department in which all operators were paid on an hourly rate. These labor costs were estimated, as described in a preceding paragraph, but when production was started there was no assurance that inventory was being credited with a proper cost of sales. The solution was readily found in the production records maintained by the department. These records were totaled for periods corresponding to payroll periods by style and size. The total production of each item was multiplied by the estimated (standard) labor cost for that particular item, and a total estimated labor cost of all items was obtained. This amount was compared with the total payroll in the department for that period and was found to vary approximately 1 per cent. Confidence was then established in the estimates, but it was feared that compensating errors might exist between different styles. However, continuation of these comparisons for a period of several months failed to disclose material variations even though the relationship of the items produced changed substantially. This was assumed to indicate that basically the standards were sound and that a method of weekly control had been established. This record is maintained in graph form to show continuous performance, but in case of an inventory shortage or overage, the extent to which this factor was contributory could be accurately measured.

Thus, the practice of recording labor variations is pursued only as far as is dictated by the necessity of maintaining an accurate book inventory. The meticulous classifications are eschewed in favor of the less classical but more productive methods which result in spontaneous corrective measures. The extent of overtime operations is watched with interest and the effect on cost, through increased overhead, is carefully studied. However, in an effort to produce "too much, ahead of time," overtime charges are not subject to much regulation.

Controlling Variations—Overhead and Scrap

Overhead variations are examined from two standpoints: Departmental and individual. The departures over and under budgeted amounts are studied; revisions are made where necessary; and attention is focused on periodic reductions in expense with as much emphasis as upon excessive charges incurred. No further discussion need be given this topic as the treatment is highly conventional.

Scrap is collected at the point it originates and is kept separated according to source. It is periodically weighed and valued at a composite cost designed to approximate raw material cost plus labor and overhead applied thereon through the previous operation. While every effort is made to localize responsibility for scrap and eliminate it, the value of scrap obtained in the foregoing manner serves principally as a check on the adequacy of the percentage used in computing costs. Comparative reports, compiled frequently, tend to keep spoilage at a minimum and indicate danger signs in cost determination.

Summary

The foregoing discussion does not purport to be sufficiently detailed to present an adequate case study, nor does it describe all devices necessary or incidental to an active control of the various elements of cost. It is the writer's considered opinion that, aside from social considerations, the primary purpose of a business enterprise is to convert materials so that they can be sold at a profit. To that end, management must make the most effective possible use of all tools at its disposal, one of which is unquestionably a reliable determination of costs. It must, therefore, follow that such costs must aid management to justify the expense of compiling them. The translation of cost records to a financial statement is, unfortunately, an expression of past performance. Management cannot withhold this month's decisions until it has seen the result of last month's. This paper, then, is presented in an effort to show that the application of standard costs can make a vital contribution to the efficient operation of an organization, and that once the standards are accurately set, it is more productive to make the operations conform to the standards than measure arithmetically all departures from them.

OUR OPEN FORUM

This section of the Bulletin is available to all for the informal discussion of technical matters of interest to our members. Included here will be comments on articles, ideas and suggestions arising out of these articles, and other correspondence in which our members are likely to be interested. The ideas expressed are those of the individual correspondents, and all shades of opinion will be welcomed to the extent that the ideas expressed are constructive and of general interest.

Destruction of Records

Editor, N. A. C. A. Bulletin:

The article, "Office Centralization for Greater Efficiency," by Louise A. Merritt, appearing in the June 15, 1945 *Bulletin* has proved of considerable value to us. There is one point, however, which perhaps should be emphasized. The author states that accounting and payroll records are kept seven years to meet statutory requirements, as management has not yet approved the destruction of these records after microfilming. However, the author further states that other records are microfilmed and destroyed within three to six months, depending upon their nature.

It seems to be well settled by the courts that microfilm records are "secondary" evidence, rather than "primary" evidence. (See, for example, *People of the State of Illinois vs. Wells*, 380 Ill. 347, 44 N.E. (2) 32, 142 A.L.R. 1262, and annotation at 142 A.L.R. 1270.) This means that the microfilm record is not admissible as of course, but the conditions for the admissibility of secondary evidence must be met. Unfortunately there is a general rule that where it appears that the party seeking to establish a fact has voluntarily destroyed a writing constituting or containing the best evidence of that fact, he cannot ordinarily introduce secondary evidence thereof, especially if the suit is on his own behalf. (32 Corpus Juris Secundum 752.)

Corpus Juris Secundum goes on to say that if the writing was destroyed in the usual course of business or when it was not likely to be used as evidence in the party's favor and had no value, the destruction cannot be held fraudulent, and secondary evidence is admissible. But this still leaves quite a burden on the party who destroyed the evidence. For example, suppose it could be shown that there was an active controversy with a certain person, involving facts provable by certain correspondence, and yet in the regular course of business the correspondence was destroyed by someone who did not realize the situation. A real difficulty would arise in getting the court to accept the microfilm record of that correspondence.

No doubt microfilming will be used more and more, and hence it seemed best to sound a word of caution in all cases where there is any chance that

the records will be needed as evidence in a suit at law. It is true that various statutes and regulations have specifically authorized the destruction of records which have been microfilmed,* but these cannot be extended by analogy, and specific authority must be found for the particular situation before such statutes and regulations can be relied upon.

RALPH R. NEUHOFF,
St. Louis Chapter.

Editor, N. A. C. A. Bulletin:

With contract terminations assuming larger volume every day, and the necessity for proper procedure more important, I would like to submit an idea which is already in use, and the value of which becomes more apparent in proportion to its simplicity.

Section 19-A of the Contract Settlement Act of 1944 states in effect that it shall be unlawful for any person wilfully to secrete, mutilate, obliterate or destroy any records relating to a contract termination or settlement of a war contract of $25,000 or more, or any records relating to disposition of termination inventory in which the consideration received by any war contractor or Government agency is $5,000 or more, until (a) five years after such disposition of inventory, (b) five years after final settlement of war contract or (c) five years after the termination of hostilities in the present war.

While it is recognized that many war contractors will be faced with a considerable number of claims, each having a lower dollar value than mentioned above, it has been felt that the idea of a small rubber stamp bearing this information, and stamped upon each document, letter or other paper, regardless of the value of the termination, would not only insure compliance with the regulations, but would also serve to refer them to the Contract Termination Department files. Likewise, in case of personnel changes in the company, such identification would serve to acquaint all future personnel with the fact that the records are to be preserved for the period specified. A reproduction of the rubber stamp is submitted herewith:

CONTRACT TERMINATION FILE
Preserve these papers carefully as required by Sec. 19(a) of Contract Settlement Act of 1944, until
(a) 5 years after disposition of inventory
(b) 5 years after final settlement
(c) 5 years after end of the war
.. whichever period is longer.

FRANK C. HIDER,
Hartford Chapter.

* See specifically Regulation No. 11 of the Office of Contract Settlement and comments p. 675, Sec. II of *Bulletin* for March 1, 1945, and p. 1059 of *Bulletin* for July 15, 1945.

COST CURRENTS

SHORT REPORTS ON ITEMS OF CURRENT INTEREST TO INDUSTRIAL ACCOUNTANTS

The Present Status of Accounting for Standard Costs—Harry E. Howell, past National President of N. A. C. A. and now Chief of the Policy Branch, Purchases Division, Headquarters Army Service Forces, is the author of a recent official release entitled "War Department Pricing Policy."

Mr. Howell presents a very interesting and informative review of the philosophy underlying the War Department's pricing poilcy and describes some of the errors which are commonly found in contractors' estimates and cost determinations. Of particular interest to industrial accountants is his comment on the present status of standard cost systems. It is reprinted below.

> Experience with the checking of cost breakdowns and the allocations of overhead shows that there is a vast need for improvement in cost accounting technique not alone for distribution costs, which we know has been neglected, but for manufacturing costs. In many instances standard cost systems fell down completely due to the lack of personnel to set new standards or due to such a free and easy adjustment of standards that they lost all value for control purposes. In fact, they contained in many instances loadings for contingencies because they were going to be used for computing prices that destroyed their value for control as well as for estimating purposes. Of more importance is the fact that while a standard cost system provides data which are ordinarily preferable for the preparation of estimates, this is only true if the variances are properly treated and distributed. For financial accounting purposes there may be many reasons to write off the variances in an arbitrary manner or to prorate them over the entire output or to treat them in some other blanket fashion. But that procedure has no bearing whatsoever on sound cost accounting. Ordinarily the source material from which the variance accounts are built up will permit proper distribution of the specific variances to cost groupings and production centers and thus to specific lines of output and to government contracts. The standard cost system is only suitable for use in estimating if the variances are distributed in such a way that a close approximation of the results of an actual cost system are obtained. It is extremely unfortunate that the arbitrary distribution of the balances in the variance accounts has led to so many errors that many companies have reverted to the use of actual cost systems. As a consequence a terrific mass of record keeping, delayed reports and the development of a huge weight of historical data have occupied the limited personnel which could have

been better employed analyzing the quantitative data upon which estimates are based and making projections of expense, costs, and volume.

* * * * *

New Surplus Property Regulation—Regulation No. 9 of the Surplus Property Board specifies the rules and procedures in connection with contractors' disposition of surplus property. It empowers owning agencies to authorize any contractor with such agency or subcontractor thereunder that is in possession of any contractor inventory to retain or dispose of such inventory in accordance with the rules prescribed in the regulation. The regulation is designed to simplify the operations of government agencies in charge of such inventories and to fix responsibilities in negotiating pretermination agreements with war contractors. In connection with pretermination agreements it is provided that the price provisions shall comply with the following rules:

1. Any property, except scrap, which is to be retained by the contractor for his own use may be retained at prices that are fair and reasonable and not less than the proceeds that could reasonably be expected to be obtained if the property were offered for sale. The agreement shall contain in connection with each such retention a written representation from the contractor that he intends to use or consume the property for manufacturing, construction, maintenance or repair purposes and that he is not retaining it for the purpose of reselling it at a profit.
2. Any property, except scrap, which is to be retained by the contractor not for his own use may be retained at either (i) prices that are fair and reasonable and not less than the proceeds that could reasonably be expected to be obtained if the property were offered for sale, but in no event less than 50 per cent of cost (estimated if not known) or (ii) market prices.
3. Any property to be retained by the contractor as scrap may be retained at market prices, with or without a scrap warranty.
4. All prices referred to in this paragraph may be determined either as of the time of the agreement or the time of termination.
5. The provisions of this section shall apply to pretermination agreements entered into on or after July 1, 1945.

The regulation, which also contains other provisions relating to retentions and sales of inventories, does not apply to dispositions of plant equipment, real property, property for war purposes or property in no-cost settlements.

* * * * *

No Withholding on Wages Paid After Death—In I.T. 3737 the Bureau of Internal Revenue has ruled that income taxes need not be withheld from (1) wages earned and unpaid at time of employee's death and (2) additional compensation paid by the employer to the deceased employee's family or estate.

* * * * *

Amendment to Securities Act of 1933—On May 15, 1945, President Truman signed a bill under which Section 3(b) of the Securities Act is amended to permit the Securities and Exchange Commission to exempt from its registration provisions any class of securities whose aggregate offering price to the public does not exceed $300,000. The exemption previously was only $100,000. The Commission has amended its rule to conform to the amended statute.

* * * * *

Tax Adjustment Bill of 1945—The Tax Adjustment Bill of 1945, which has been passed by the House of Representatives and is now before the Senate Committee, follows closely the recommendations of the Joint Committee on Internal Revenue Taxation which were reported in the June 1 *Bulletin*. In its present form the bill—

1. Increases the excess profits tax specific exemption from $10,000 to $25,000. . . . for taxable years beginning after December 31, 1945.
2. Provides that the postwar credit of 10 per cent of the excess profits tax be taken currently with respect to tax liabilities of 1944 and subsequent years.
3. Advances to January 1, 1946, the maturity date of the outstanding excess profits tax postwar refund bonds.
4. Provides for speeding up of refunds resulting from carrybacks of net operating losses and unused excess profits credit.
5. Provides for acceleration of refunds resulting from recomputation of deductions for amortization of emergency facilities.
6. Authorizes a special refund limitation period in connection with carry backs.

The last item listed above may be quite significant for some taxpayers. According to it the three-year period in which refund claims may be filed is to be measured, in cases involving carrybacks, from the date of filing the loss-year return instead of the year of carryback as is now the case. For example, under present law if a loss is incurred in 1944, the last day for filing a refund claim based on a carryback to 1942 would be March 15, 1946 (three years from due date of 1942 return). Under the proposed change the claim can be filed as late as March 15, 1948 (three years from the due date of the 1944 return).

CURRENT COST LITERATURE

Cost Accounting Bibliography

Accountants and particularly cost accountants will be generally interested in a volume entitled *Cost Accounting Bibliography* compiled by A. L. Prickett (Edwards Bros., Inc., 1945) of the School of Business, Indiana University. It represents Study No. 28 of the Indiana Business Studies. Included in the study are publication listings from 1890 to July, 1944. All material has been classified into eighteen categories and represents data collected on 28,000 punched cards, giving information concerning author, title of the article or book, and source. The classifications are as follows:

1. Materials and Inventories.
2. Labor.
3. Overhead.
4. Selling and Distribution Expenses.
5. Job Order Costs.
6. Standard Costs.
7. Statements and Reports, Use of Cost Data, etc.
8. Taxes.
9. Waste and Spoilage, Scrap.
10. Process Costs.
11. Budgets.
12. Governmental Accounting and Institutional Accounting.
13. Joint and By-Product Costs.
14. Industries and Groups (Trade Associations).
15. Fixed Assets (Depreciation).
16. General.
17. Problems.
18. Costs and the War.

The listing in the volume is alphabetical by authors. It is to be regretted that the current paper shortage has made impossible listing by subject matter, especially since modern tabulating equipment can so easily handle such a task. In order to conserve 50 per cent of paper required for a classification by subject matter, the author has had recourse to an ingenious coding arrangement. For each item listed he shows among other things the month and year of publication, type of publication (whether magazine, monograph, or book), subject classification (from 1 to 18 as shown above), and publisher. This makes it possible, of course, to look for material by subject matter; it does require patience, since there are 470 pages of listings. Certainly the field has been thoroughly surveyed as evidenced by the publications of 780 publishers both foreign and domestic.

ASSOCIATION NEWS

ARTHUR B. GUNNARSON JOINS HEADQUARTERS STAFF

Arthur B. Gunnarson has joined the Headquarters Staff as an Assistant Secretary. Mr. Gunnarson will assume responsibility for certain Headquarters functions and will assist in our program of chapter service. He began his duties on July 15.

Arthur Gunnarson has a broad experience in business and a rich background in N. A. C. A. affairs. After an undergraduate and graduate education which included training in business he joined the Washburn-Crosby Company in Minneapolis in the auditing division. This was followed by a period as Comptroller of the Red Owl Stores, Incorporated. In 1930 he went to Washington as a member of the Chamber of Commerce of the United States. His service with that organization has continued over a period of fifteen years and has included administration and research responsibilities. This long experience in association work in a leading business organization insures a great contribution to N. A. C. A.

His N. A. C. A. experience began fifteen years ago in Minneapolis where he served as a director. In 1932 he was a leader in the organization of Washington Chapter and was its first president from 1932 to 1934. He was elected to the National Board in 1934, served six years; he has been Director in charge of Research, Publications and Program. Committee assignments have included both membership and chairmanship of the important Conference Technical Program Committee. This year he was nominated and elected Vice President of the Association, an office which he is now unable to assume only because of his new assignment.

NEW ASSIGNMENT FOR R. P. MARPLE

On July 1, 1945, Dr. R. P. Marple, who has been associated with our headquarters organization for eleven years as Director of Technical Service and Research, was appointed Assistant Secretary in charge of Technical Service. This new appointment recognizes the substantial contribution Dr. Marple has made to our Association through editing the publications and directing our research and member technical service.

T. H. SANDERS CHAIRMAN OF RESEARCH COMMITTEE

At the meeting of the National Board of Directors held on June 29, President Moore announced the appointment of Past President T. H. Sanders as Chairman of the new Research Committee. Professor Sanders brings to this new assignment a rich experience. His great contribution to N. A. C. A. is known to every member. In addition, his experience includes service as Director of Research for the American Institute of Accountants; as consultant to the Security and Exchange Commission; as Chief of the Cost Analysis Section, Division of Purchases, Office of Pro-

duction Management; and as member of Price Adjustment Boards of the Maritime Commission, War Department, and Navy Department.

APPOINTMENTS OF DIRECTORS-IN-CHARGE FOR 1945-46

President-elect Frank Klein has announced the following appointments of National Directors in charge of Departments for the Association year, 1945-46:

Chapters—Clinton W. Bennett, Partner, Cooley & Marvin, Boston, Mass.

Constitution—George L. Nohe, Partner, O. F. Taylor & Co., New York, N. Y.

Education—Jesse G. Kline, Chief Cost Accountant, The Atlantic Refining Co., Philadelphia, Pa.

Employment—Duncan D. Richardson, Treasurer, Monroe Calculating Machine Co., Orange, N. J.

Meetings—Palmer W. Hancock, General Cost Auditor, Owens-Illinois Glass Co., Toledo, Ohio.

Member Attendance—William E. Jackman, Accounting Supervisor, Color Print Service, Eastman Kodak Co., Rochester, N. Y.

Membership—Herman A. Papenfoth, Secretary and Treasurer, The Trumbull Electric Mfg. Co., Plainville, Conn.

Program—Edgar O. Dreas, Comptroller, Metropolitan Edison Co., Reading, Pa.

Publications—William E. Perry, Comptroller, Scranton Lace Co., Scranton, Pa.

Publicity—Clarence Crocheron, Vice President, The American Appraisal Co., Inc., New York, N. Y.

Research—Thomas H. Sanders, Professor, Graduate School of Business Administration, Harvard University, Boston, Mass.

F. Earl Reuwer, an N. A. C. A. member of long standing and faithful service, died on July 6, 1945, after a brief illness. He was widely known throughout the Association. Mr. Reuwer joined the Association in 1928 as a member of the Baltimore Chapter. In 1932-33 he served as President of the Baltimore Chapter, after two years as a Director and Vice President, and from 1934 to 1940 he was a member of the National Board. He addressed many chapters. In addition to his N. A. C. A. activities Mr. Reuwer was a Past President of the Maryland Association of Certified Public Accountants and a member of the Controllers Institute of America. He will be greatly missed by his many friends.